

## A. Cover Sheet

- ☐ agricultural project      ☒ individual project  
☒ urban project      ☐ joint application
1. Proposal title - concise but descriptive:      **Resource Efficient Loans for California.**
  2. Principal applicant - organization or affiliation:      **CTSI Corporation**
  3. Contact - name, title:      **James P. Craft, CEO**
  4. Mailing address:      **2722 Walnut Ave., Tustin, CA 92780**
  5. Telephone:      **(714) 669-4303**
  6. Fax:      **(714) 669-4309**
  7. E-mail:      **jimc@ctsicorp.com**
  8. Funds requested- dollar amount:      **\$936,125 first year**
  9. Applicant cost share funds pledged - dollar amount:      **\$102,500 plus \$1-2 million in private financing first year, growing to over \$90 million in private financing year 3.**
  10. Duration - (month/year to month/year):      **July 2001 to June 2004**
  11. State Assembly and Senate districts and Congressional district(s) where the project is to be conducted:      **All districts within the State of California**
  12. Location and geographic boundaries of the project:      **State of California, Statewide**
  13. Name and signature of official representing applicant. By signing below, the applicant declares the following:
    - the truthfulness of all representations in the proposal;
    - the individual signing the form is authorized to submit the application on behalf of the applicant;
    - the applicant will comply with contract terms and conditions in Section 11 of the PSP.

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*(printed name of applicant)* CTSI  
Corporation  
James P. Craft

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*(date)* February 14,  
2001

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*(signature of applicant)*

## **B. Scope of Work**

### ***Relevance and Importance***

#### **Abstract**

This project is designed to accelerate the implementation of cost-effective actions to conserve water throughout the State through the development, marketing and successful implementation of an innovative conservation financing mechanism. This program meets all of the goals of the Water Use Efficiency Program. It preserves local flexibility down to the level of the individual water customer, it is an incentive-based program, it builds on existing water use efficiency programs and it provides assurances of high water use efficiency. By the third year of operation, we anticipate that this program can leverage between \$80 - \$190 million in funding, committed to implementing resource conservation in California, at no cost to the state or to water agencies.

CTSI Corporation, in cooperation with Fannie Mae, proposes to develop a resource efficiency loan product, which will incorporate water conservation and savings as a key feature. CTSI will develop effective partnerships with water agencies, mortgage lenders, brokers, realtors, community organizations, appliance manufacturers and the home building industry in order to successfully market and implement the program. Prospective buyers of both new and resale homes within the State will be eligible to receive additional financing for the purpose of installing resource efficiency devices in the home. Over 500,000 homes are re-sold each year in California. In addition, 110,000 new homes are built each year. This program is designed to reach a conservative penetration level of 15-18%. CTSI is seeking funding from CALFED to work with Fannie Mae, and other mortgage lenders, to develop the loan product, and then to successfully market and implement the program.

#### **Statement of Water Issues**

The proposed project will have statewide impact. Effective water resource utilization and demand management is an important tool in California's resource management options. The reduction in demand from implementing the associated water-efficiency measures from this project will directly improve availability of local water resources, reduce

demands on local watersheds and thereby reduce demands on water diversions from the Bay-Delta, either directly or through lower levels of reliance on imported water. Many urban water agencies are signatories to the Urban MOU and have agreed to implement the Best Management Practices, specifically to reduce long-term demand, and thereby help provide reliable water supplies while at the same time protecting the environment. This program enables urban water users to accelerate implementation of the BMPs without additional budgetary requirements. In the southern half of the State, it will also reduce demands made on Colorado River water. The recent Record of Decision signed by Interior Secretary Babbitt only provides certainty for California if it moves forward with an aggressive plan to reduce over-reliance on the Colorado River. The proposed project also includes energy efficiency measures, of critical importance to California, given the State's current energy crisis. Energy demand-reduction also impacts water use within the state in so far as over 5% of the state's electrical load is tied to pumping water. Increased hydroelectric production in response to the energy crisis also leads to water supplies in reservoirs being drawn down, possibly compromising water supply reliability. Therefore, integrating energy efficiency measures into the project can also contribute to a reduction in the demand for hydroelectric power, thereby helping to increase water supply reliability.

### ***Nature, Scope and Objectives***

CTSI will work together with Fannie Mae, a federal mortgage purchaser and California lenders, as well as the CALFED funding agencies to develop and market a new resource efficiency loan package for home owners based upon purchase of a new or existing home or for refinancing. While Fannie Mae has developed similar energy efficiency mortgages in the past, the California product will have an equal focus on water use efficiency. The proposed California water and energy resource efficiency mortgage will allow homeowners to borrow additional funds for the purpose of retrofitting existing homes with water and energy efficient devices or installing them in new homes. The proposed program benefits the customer, the water agencies and other program partners as follows:

#### **Water Agencies**

- Off-budget financial incentives for customers to participate in water conservation enabling local

agencies to better meet local demand management objectives

- Accelerated implementation of Urban BMPs without additional budgetary requirements
- Enhanced role for water use efficiency in meeting long range resource planning goals
- Long term financing of efficiency measures with direct impact on rates

### **Customers**

- Zero down payment with additional benefits, including additional buying power
- Monthly projected energy and water savings will be added to borrower income in the qualification calculation
- Appliance manufacturer rebates can be used for closing costs or interest rate buydown
- Provides customer incentives for aggregation; purchase and installation of measures all at once.

### **Lenders and Brokers**

- Lenders are allowed to calculate the estimated monthly water and energy savings derived from resource efficiency improvements to qualify borrowers for additional funds in the home buying or refinancing process.

### **Statewide**

- Minimizes impact on the environment through water and energy conservation
- Provides \$90 -180 million in water and energy resource improvements by the third year of implementation, at no cost to water agencies, thereby promoting conservation in areas where limited funds are available.

Developing a successful marketing campaign to effectively promote awareness and sales of the loan product is critical to the success of this project. Fannie Mae, and other lenders, do not have the resources or professional expertise to effectively market this product. CTSI has over 8 years of experience in designing innovative marketing campaigns for the purpose of promoting urban water use efficiency programs. We have assisted over 50

urban water agencies in creating successful programs designed to meet or exceed the objectives of the Urban BMPs. CTSI will work in partnership with Fannie Mae, and other mortgage lenders, to develop a successful California water and energy resource efficiency mortgage marketing outreach program that will target:

- Water agencies
- Energy utilities
- Mortgage lenders and brokers
- Realtors and appraisers
- Building industry
- Appliance manufacturers
- Disadvantaged communities

As part of the marketing outreach, CTSI proposes developing a web site that will identify potential water and energy saving devices and their associated savings. Customers can select a range of measures designed to maximize their monthly savings by maximizing water and energy resource savings. CTSI will work together with participating lenders to develop resource efficiency packages that will incorporate a number of measures up to certain loan values from which customers can select their preferred mix of qualifying measures. The packages will be designed such that, on average, the minimum level of water savings is equivalent to 30% of the loan package, and the maximum level of water savings, will be, on average equivalent to 70% of the value of the loan. In other words for a \$2000 loan, a minimum value of \$600 would be repaid through water savings.

Qualifying measures include, but are not limited to:

Measure	Urban BMP or PBMP	Existing/R resale Home	New Home	Water Savings Only	Energy Savings Only	Water and energy savings
Ultra-low-flush toilet retrofit	14	x		x		
Residential Plumbing Retrofit	2	x				x
High Efficiency Washing Machine	6	x	x			x
ET-based Irrigation Controllers	P3	x	x	x		
High Efficiency Dish Washers	P3	x	x			x
Point of Use Hot Water Heating Systems	P10	x	x			x
Rain-Shut Off Devices	P3	x		x		
Irrigation System Efficiency Improvements	P3	x	x	x		
Refrigerator		x	x		x	
Efficient Clothes Dryer		x	x		x	

In addition to the three Urban BMPs and two PBMPs met, as outlined in the table above, this program also addresses:

- BMP 7 - Public Information Programs
- PBMP 1 - Rate Structure and other Economic Incentives to Encourage Water Conservation

The program is designed to be implemented over a 3-year period. During year 1, the first 3 months would be devoted to soliciting input from potential program partners. That input would then be used for finalizing the loan product, developing the program web-site and producing marketing materials during the second 3 months. The remainder of the first year and subsequent two years will have the following program objectives:

Program Year	Participating Agencies	Resource Efficient Mortgages Per Agency	Mortgage Value	Private Investment in California's Water and Energy Conservation
1	5	100	\$2000-4000	\$1 - \$2 million
2	20	1000	\$2000-4000	\$40 - \$80 million
3	30	1500	\$2000-4000	\$90 - \$180 million

## ***Technical, Scientific Merit, Feasibility, Monitoring and Assessment***

### **Methods, Procedures and Facilities**

CTSI will use the water savings assumptions developed and approved by the California Urban Water Conservation Council for developing the savings estimates for approved measures. Water savings for measures for which the CUWCC has not developed estimates will be based upon other documented research studies or upon water usage analysis comparisons between program participants and control groups of customers.

### **Schedule**

See next page for timeline/bar chart

See below for projected costs for tasks and quarterly totals

<b>Project Task</b>	<b>1st Quarter</b>	<b>2nd Quarter</b>	<b>3rd Quarter</b>	<b>4th Quarter</b>	<b>Total</b>
Set-Up and Administration	\$41,250.00	\$41,250.00	\$41,250.00	\$41,250.00	\$165,000.00
Develop Product and Web Capability	\$40,000.00	\$37,500.00	\$30,000.00	\$25,000.00	\$132,500.00
Outreach and Marketing		\$96,670.00	\$96,670.00	\$76,660.00	\$270,000.00
Monitor and Analysis	\$15,000.00	\$15,000.00	\$15,000.00	\$15,000.00	\$60,000.00
Supplies	\$1,500.00	\$1,600.00	\$1,700.00	\$1,500.00	\$6,300.00
Fringe Benefits	\$19,250.00	\$18,750.00	\$17,250.00	\$17,750.00	\$73,000.00
Rent	\$11,250.00	\$11,250.00	\$11,250.00	\$11,250.00	\$45,000.00
Equipment	\$28,900.00				\$28,900.00
Travel	\$14,800.00	\$18,000.00	\$18,000.00	\$14,000.00	\$64,800.00
Program Management	\$28,900.00	\$28,900.00	\$28,900.00	\$29,175.00	\$115,875.00
Overhead	\$19,300.00	\$19,300.00	\$19,338.00	\$19,312.00	\$77,250.00
<b>Project Total</b>	<b>\$220,150.00</b>	<b>\$288,220.00</b>	<b>\$279,358.00</b>	<b>\$250,897.00</b>	<b>\$1,038,625.00</b>
CALFED Funding Request					<b>\$936,125.00</b>
Matching Funds					<b>\$102,500.00</b>





## ***Monitoring and Assessment***

CTSI, Fannie Mae and other mortgage lenders will track the number of resource efficient loans issued through this program, total loan funds committed in terms of dollars invested, the associated water conservation measures and estimated water savings. CTSI will work together with the participating water agencies to identify the water usage of program participants in comparison with a control group of customers. Using this information CTSI will be able to provide the participating agencies and CALFED with the water savings achieved as a result of this program.

CTSI will provide quarterly progress reports that will track the completion of each element of the program and provide information regarding any issues impeding completion on schedule. Both fiscal and programmatic reports will be provided. In addition, results of the program monitoring will be provided, at minimum, in an annual written report. CTSI will provide an oral or written presentation of the project and findings, on at least an annual basis, upon request.

## **C. Outreach, Community Involvement and Information Transfer**

### ***Outreach Efforts to Disadvantaged Communities***

CTSI will work together with community based organizations to market the program to disadvantaged communities. Many of the potential lenders have financial resources available to market loan and financing products to disadvantaged communities, but don't know how to effectively market to those communities. CTSI brings its background in creating successful community based programs to the table. CTSI created a community based water conservation program model that achieved national recognition for its ability to outreach and promote water conservation within disadvantaged communities. CTSI will build upon those established community based networks to effectively market this program to disadvantaged communities.

### ***Training, Employment and Capacity Building Potential***

CTSI proposes a project team that will focus on partnership development, community involvement and marketing outreach. Each year of the program will focus on developing additional partners in the program. The training of additional program partners will enhance the ability to

generate more loans and therefore additional investments in water and energy efficiency.

### ***Plan for Information Dissemination***

CTSI plans to develop a program web-site and launch a statewide promotional campaign targeted at water agencies, lenders, realtors, community-based groups, appliance manufacturers and building industry associations. In addition, CTSI will develop presentations for use at water industry conferences and will disseminate information through the CUWCC, AWWA and other organizations.

### ***Copy of the Letter Sent to Local Water Agencies***

The nature and scope of this innovative program is statewide. The nature of the program only serves to enhance and promote public participation in statewide conservation efforts through a resource efficiency loan product. CTSI can provide CALFED funding agencies with copies of letters from participating agencies during the initial marketing and outreach phase of the program, subject to the program being selected for funding.

## **D. Qualifications for the Applicants, Cooperators and Establishment of Partnerships**

### ***Resume(s)***

See attached resume for proposed Project Director, Jim Craft

### ***Role of external cooperators***

Fannie Mae has already expressed an interest in working together with CTSI and the funding agencies to design and offer a resource efficient loan product for California. Fannie Mae will also promote the program to its lenders through its own channels.

### ***Establishment of Partnerships***

CTSI will work in partnership with Fannie Mae to design and market a resource efficiency loan product for California, and has already approached Fannie Mae in that regard. The program will focus on building a number of strategic alliances with water agencies, energy utilities, community based organizations, building industry associations, realtors, mortgage lenders and brokers and appliance

manufacturers. One of the keys to the success of this program is the development of these partnerships. CTSI is well qualified to provide this role. A key feature to the model water conservation programs CTSI has developed is the use of public-private partnerships. CTSI has worked with over 500 community organizations, over 100 large corporate partners and over 50 urban water agencies in California for the purpose of leveraging funds and implementing water conservation programs. For example, CTSI developed a Water Wise program for Metropolitan Water District of Southern California that, through the use of partnerships and innovative marketing techniques, allowed Metropolitan to save \$6 million over other similar programs.

## **E. Costs and Benefits**

**See following pages**

### **Budget Justification**

The first year budget includes the salaries, wages and fringe benefits (20%) for 5 full time staff members:

- a project director who will oversee and direct the development and implementation of the entire project
- 2 full-time partnership and outreach managers who will develop partnerships with water agencies, local community organizations, mortgage lenders, brokers, realtors, appraisers, the building industry and appliance manufacturers
- One data analyst/management who will track and analyze projected water savings
- One administrative/office manager

The budget also includes establishing a program office with equipment, including furniture, computers, a server and phone system. Office supplies are conservatively estimated at \$75 per month, per employee.

Services/Consultants include:

- A financial product developer provided by Fannie Mae who will work to develop a water and energy efficiency loan product. The time is estimated at 500 hours at \$125/hour.
- Web-Site development, including planning and programming for the program web-site. Estimated at 875 hours at \$80/hour.

- Graphics and Marketing Materials development. Estimated at 1 full time person for one year at \$80,000. 50% staff in-kind contribution from Fannie Mae (\$40,000).

Travel includes travel by the Project Director and the two partnership development staff for the purposes of creating partnerships to other areas of the state. Travel is estimated at 3 trips per month for the 3 staff members, for 36 weeks of the year, for an average of \$600 per trip. It is assumed that the other weeks of the year, travel is local.

Other Costs includes:

- Office Rent: Assumes approx. 300 sq.ft per person, 5 people, total of 1500 sq.ft at \$2.50 per sq.ft.
- Marketing Expenses: \$2 per brochure, 25,000 brochures to promote program during first year of development to program partners.
- Program Management Fees: 15% of the project cost for development, design, coordination, and implementation of the project.
- Overhead: 10% of project cost

## **JAMES P. CRAFT, III**

### **Education**

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Master of Business Administration, Harvard University, Boston, MA  
 BS, Engineering, U.S. Naval Academy, Annapolis, MD  
 Diploma in National Security Management, National Defense University

### **Professional Experience**

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- CTSI's co-founder and Principal responsible for creating the concepts and program methodology for the award-winning water conservation programs developed and implemented by CTSI for water utilities across the nation. Reaching well over 10 million people, these programs have successfully addressed hard to reach audiences, while providing sidestream benefits to utilities and their communities at large. Mr. Craft's extensive experience in the water and irrigation industry have provided him with a solid understanding of utility and water issues upon which to draw in creative program design.
  - CEO of Conservation Technologies. Responsible for overall direction of manufacturer of irrigation products, including moisture sensing, control and communication equipment. Additional responsibilities included mergers and acquisitions and oversight of engineering and product development.

- Director of Franchise Marketing for regional master franchiser of Century 21 Real Estate. Nationally recognized for special achievement for franchise sales.
- Co-founded an international development company (Foreign Exchange Management) that initiated projects designed to generate hard currency foreign exchange in the host countries. Projects undertaken included fruit (ortaniques) export from Jamaica; flower purchase, package and export from the Netherlands; and agribusiness projects in Turkey.
- Selected to serve under President Reagan as part of the Executive Exchange Program. As Special Assistant to the Assistant Secretary of the Air Force, was responsible for energy policy and conservation program oversight (\$2 billion program). Distinguished Service Metal awarded for contributions made.
- Domestic commercial irrigation market manager, and subsequently, international marketing manager for Rain Bird International (an irrigation equipment manufacturer). Responsibilities included the development and implementation of innovative marketing programs and policies, as well as the development of specialty consumer products.
- Senior Product Engineer for Coca-Cola USA, responsible for development of new methods and equipment for soft drink distribution. Awarded two patents for design and innovation.

## Budget Summary FY 1

Item	Amount	Units	Qty	Total Cost	Local Share (\$)	CALFED Request (\$)
<b>A. Salaries and Wages</b>						
Project Director	\$115,000	\$/Year	1	\$115,000	\$0.00	\$115,000.00
Financial, Realtors & Appraisers Rep 50%	\$35,000	\$/Year	1	\$35,000	\$0.00	\$35,000.00
Water Agencies Rep 50%	\$35,000	\$/Year	1	\$35,000	\$0.00	\$35,000.00
Community Outreach Rep 50%	\$35,000	\$/Year	1	\$35,000	\$0.00	\$35,000.00
Building Manufacturers Rep 50%	\$35,000	\$/Year	1	\$35,000	\$0.00	\$35,000.00
Data Analysis & Management	\$60,000	\$/Year	1	\$60,000	\$0.00	\$60,000.00
Administration	\$50,000	\$/Year	1	\$50,000	\$0.00	\$50,000.00
Sub Total						<b>\$365,000.00</b>
<b>B. Fringe Benefits</b>						
20% Of Wages						\$73,000.00
Sub Total						<b>\$73,000.00</b>
<b>C. Supplies</b>						
Office						
Supplies (\$75/month)	\$900	\$/Employee	7	\$6,300	\$0.00	\$6,300.00
Sub Total						<b>\$6,300.00</b>
<b>D. Equipment</b>						
Office						
Furniture	\$700	\$/Employee	7	\$4,900	\$0.00	\$4,900.00
Computers	\$2,000	\$/Employee	7	\$14,000	\$0.00	\$14,000.00
Server	\$5,000	\$/Office	1	\$5,000	\$0.00	\$5,000.00
Phone System	\$5,000	\$/Office	1	\$5,000	\$0.00	\$5,000.00
Sub Total						<b>\$28,900.00</b>
<b>E. Services or Consultants</b>						
Financial Product Developer 1	\$62,500	\$/Year	1	\$62,500	\$62,500.00	\$0.00
Web-site Developer	\$70,000	\$/Year	1	\$70,000	\$0.00	\$70,000.00
Graphics & Marketing Materials Development 2	\$80,000	\$/Year	1	\$80,000	\$40,000.00	\$40,000.00
Sub Total						<b>\$110,000.00</b>
<b>F. Travel</b>						
(3/Month, 3 people, 36 weeks)						
Air Fares	\$350	\$/Year	108	\$37,800	\$0.00	\$37,800.00
Car Rental	\$50	\$/Year	108	\$5,400	\$0.00	\$5,400.00
Hotel & Meals	\$200	\$/Year	108	\$21,600	\$0.00	\$21,600.00
Sub Total						<b>\$64,800.00</b>
<b>G. Other Direct Costs including planning, design, construction, rents, maintenance, etc.</b>						
Rent (per Sq.Ft./Month)	\$2.50	\$/Year	1500	\$45,000.00	\$0.00	\$45,000.00
Marketing Expenses (Printing, Mailing, etc.)	\$2.00	\$/Year	25000	\$50,000.00	\$0.00	\$50,000.00
Program Management (Planning, Design, Coordination & Implementation) 15%	\$115,875	\$/Year	1	\$115,875.00	\$0	\$115,875.00
Overhead (10%)	\$77,250	\$/Year	1	\$77,250.00	\$0	\$77,250.00
Sub Total						<b>\$288,125.00</b>
<b>H. Total Estimated Costs; total Items (A through G)</b>						<b>\$936,125</b>

1 In Kind from Fannie Mae

2 Contribution from Fannie Mae and participating lenders

Year1

## Assessment of Costs and Benefits

Disc. Rate

6.0%

Life of Measures (Yrs) 10

### Acre Feet Saved

### Discounted

	Min. Efficiency & Level of Investment	Max. Efficiency & Level of Investment	Min. Efficiency & Level of Investment	Max. Efficiency & Level of Investment
<b>Year 1 Water Efficiency Calculations</b>				
10 Years AF	9230	43077	6793	31705
Per year	923	4308	679	3170
Cost 1st Year	\$936,125.00	\$936,125.00	\$936,125.00	\$936,125.00
<b>Cost P/ AF</b>	<b>\$101.42</b>	<b>\$21.73</b>	<b>\$137.80</b>	<b>\$29.53</b>

### Year 2 Water Efficiency Calculations

10 Years AF	369231	1723077	271757	1268200
Per year	923	172308	27176	126820
Cost 1st Year	\$936,125.00	\$936,125.00	\$936,125.00	\$936,125.00
<b>Cost P/ AF</b>	<b>\$2.54</b>	<b>\$0.54</b>	<b>\$3.44</b>	<b>\$0.74</b>

### Year 3 Water Efficiency Calculations

10 Years AF	830769	3876923	611453	2853449
Per year	923	387692	61145	285345
Cost 1st Year	\$936,125.00	\$936,125.00	\$936,125.00	\$936,125.00
<b>Cost P/ AF</b>	<b>\$1.13</b>	<b>\$0.24</b>	<b>\$1.53</b>	<b>\$0.33</b>

### Assumptions:

*Minimum 10 year life per efficiency measure. Most have considerably more, so numbers are conservative*

*After 3 years of program development, additional new mortgages are financed without additional program investment*

*8% penetration (45,000) by year 3 is conservative. Based on total home sales of 600,000 annually in CA.*

*Used example of 1,000 gallons costs \$1, therefore 1AF costs \$325, for purposes of illustration*

## Summary of Non-Qualified Costs and Benefits

	Benefits	Costs
Customers	Gain new appliances Qualify for additional mortgage Increase home value	All costs are more than offset by a corresponding reduction in utility expenses.
Water Agencies	Water use efficiency savings	Virtually no cost
State of California	Water use efficiency investments and associated savings of \$300,000 min, 1st yr, up to \$27 million, min 3rd yr	Investments privately financed Equivalent to CALFED funding portion